

FY 2022 AND 2023 AGENCY PREMIUMS

Workers' Compensation Self-Insurance Fund

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ACTUARIAL CONSULTING

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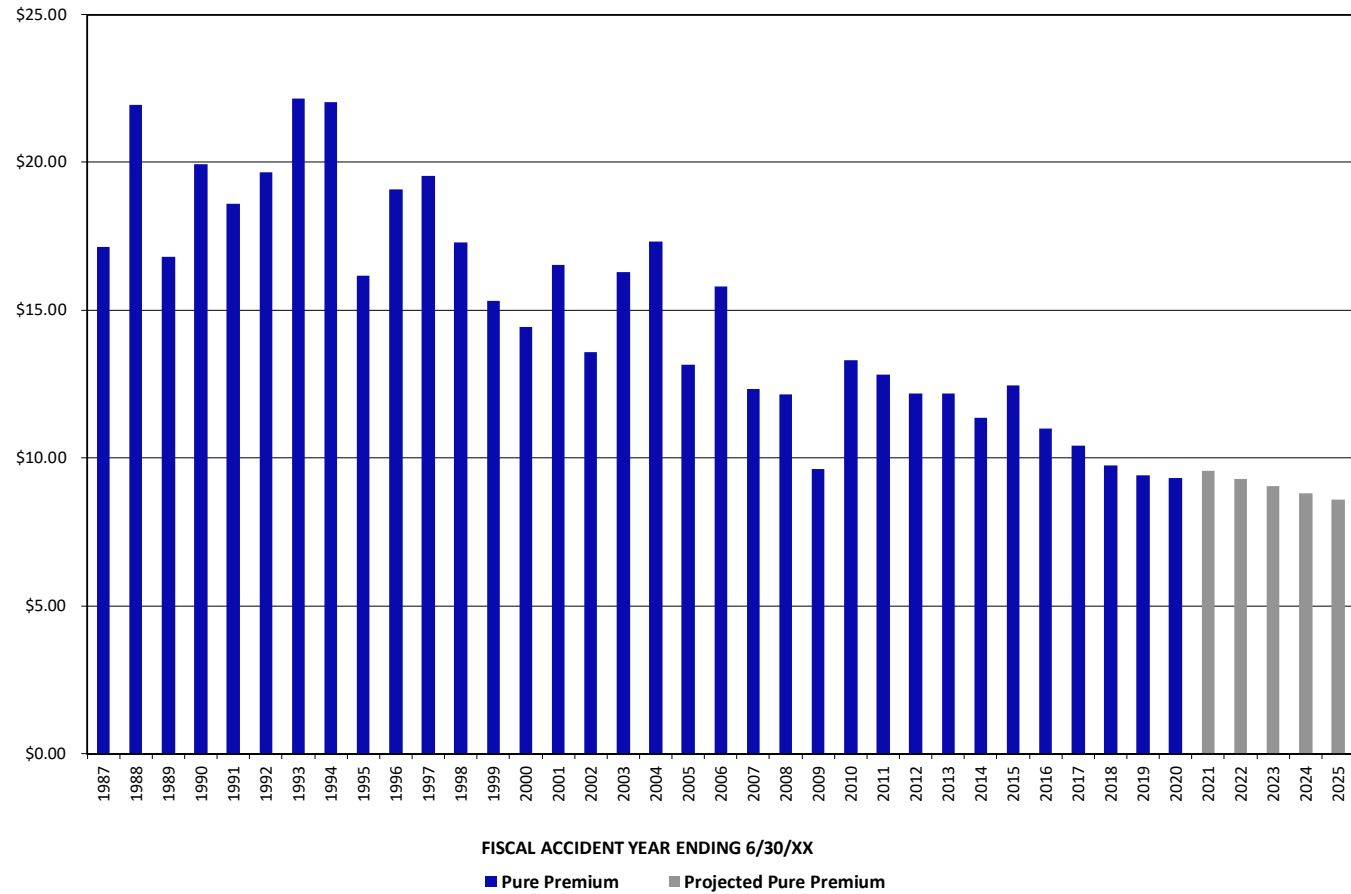
PRESENTATION OVERVIEW

- Overview of the Commonwealth's Workers' Compensation Experience
- Overall Recommended FY 2022 and FY 2023 Workers' Compensation Premiums
- Individual Agency FY 2022 and FY 2023 Premium Calculations
- Settlement Project
- This document represents a summary of our full report titled "FY 2022 and 2023 Workers' Compensation Premium Allocation" dated September 23, 2020. The considerations and limitations outlined in the full report also apply to this document.

OVERALL COMMONWEALTH EXPERIENCE

Pure Premiums

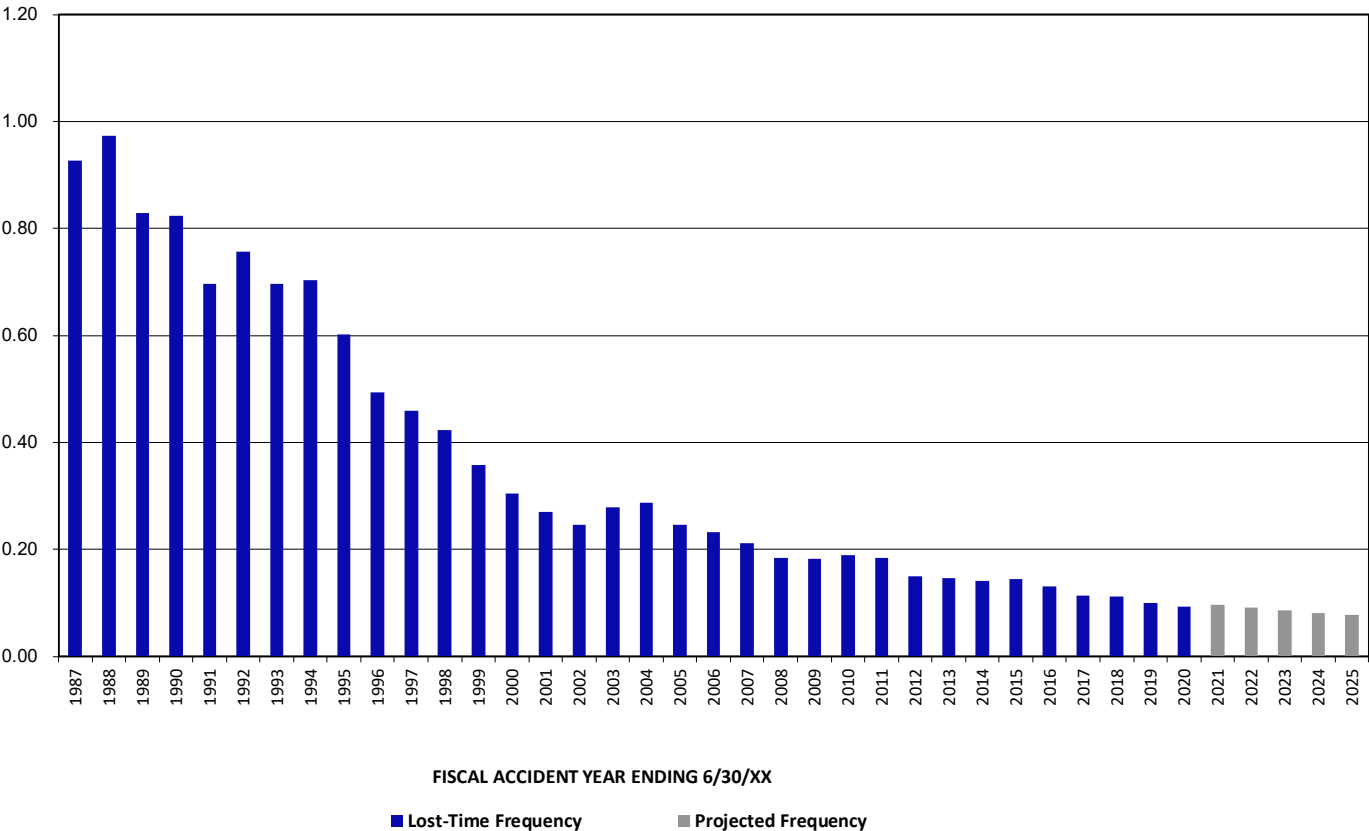
ESTIMATED PURE PREMIUMS BY FISCAL ACCIDENT YEAR
PURE PREMIUM = ESTIMATED ULTIMATE LOSS PER THOUSAND DOLLARS OF PAYROLL



OVERALL COMMONWEALTH EXPERIENCE

Claim Frequency

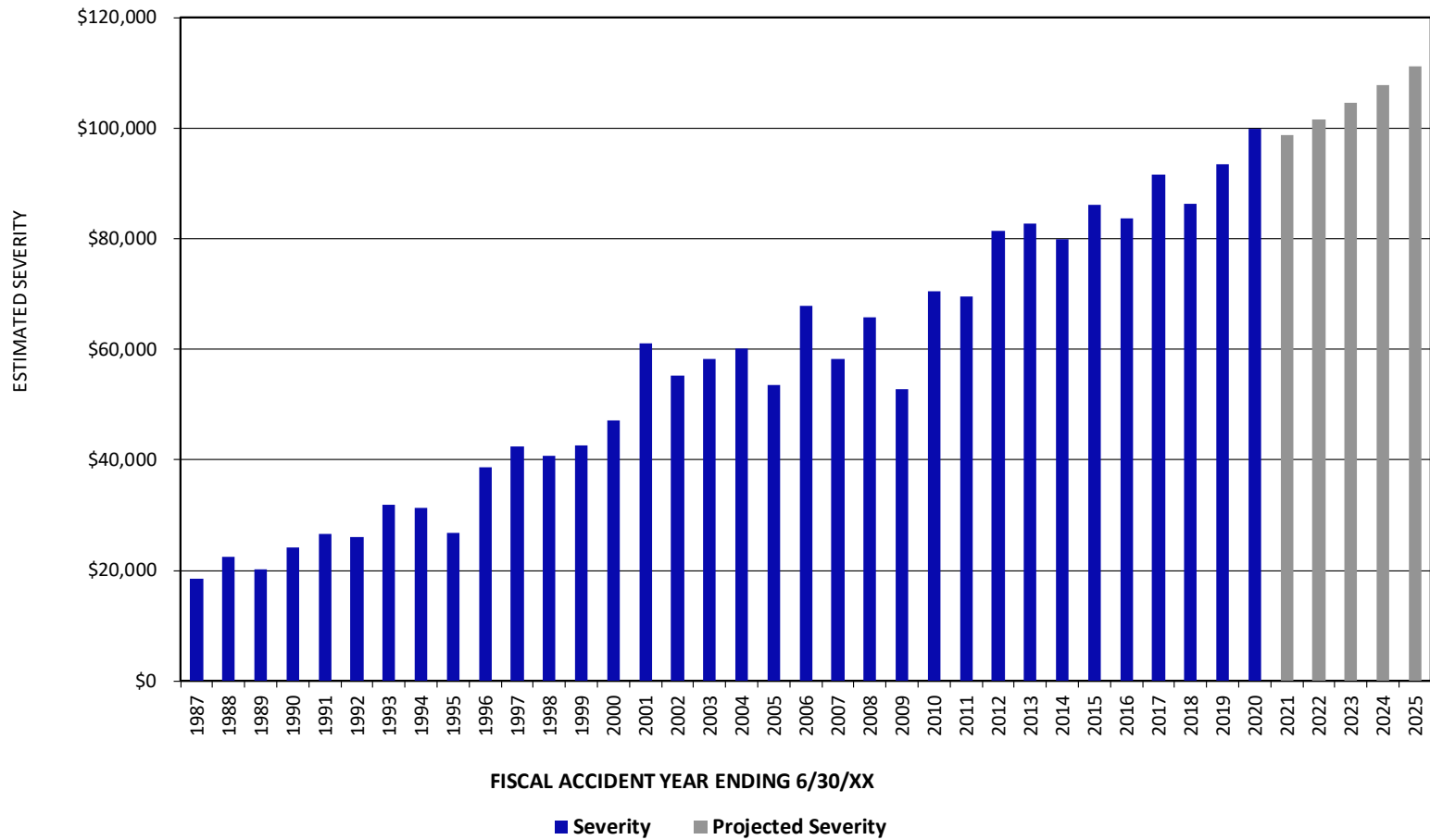
ESTIMATED LOST TIME CLAIM FREQUENCY BY FISCAL ACCIDENT YEAR
CLAIM FREQUENCY = ESTIMATED ULTIMATE NUMBER OF CLAIMS PER MILLION DOLLARS OF PAYROLL



OVERALL COMMONWEALTH EXPERIENCE

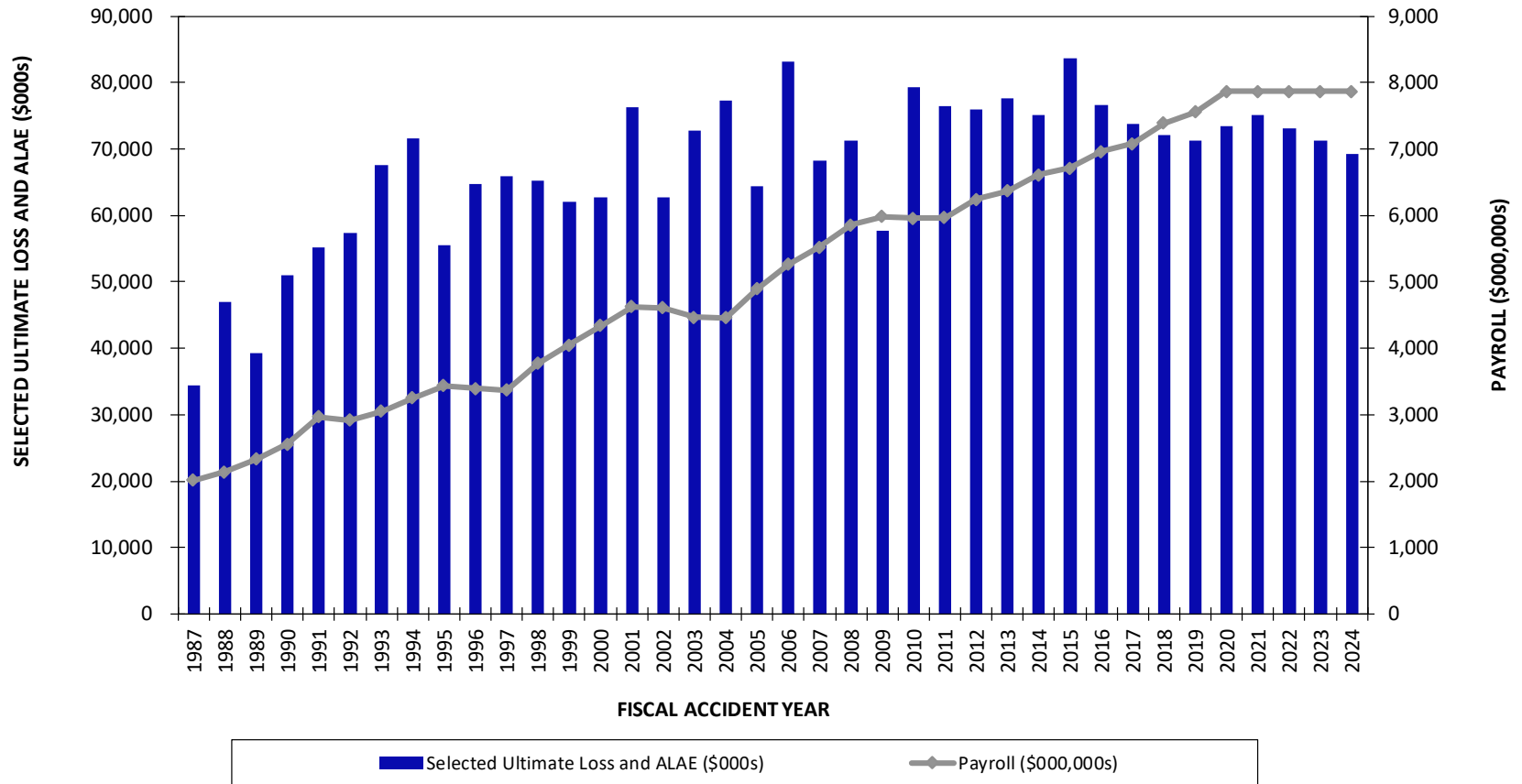
Claim Severity

ESTIMATED CLAIM SEVERITY PER LOST TIME CLAIM BY FISCAL ACCIDENT YEAR
CLAIM SEVERITY = ESTIMATED ULTIMATE LOSS PER LOST TIME CLAIM



OVERALL COMMONWEALTH EXPERIENCE

Payroll and Losses



Payroll provided by Department of Planning and Budget.

OVERALL COMMONWEALTH EXPERIENCE

Medical Cost Inflation Index

| CALENDAR YEAR | CPI - ALL MEDICAL CARE | PERCENT CHANGE | MEDICAL CARE SERVICES | PERCENT CHANGE |
|------------------|---------------------------|-------------------|--------------------------|-------------------|
| 1985 | 113.5 | | 113.2 | |
| 1986 | 122.0 | 7.5% | 121.9 | 7.7% |
| 1987 | 130.1 | 6.6% | 130.0 | 6.6% |
| 1988 | 138.6 | 6.5% | 138.3 | 6.4% |
| 1989 | 149.3 | 7.7% | 148.9 | 7.7% |
| 1990 | 162.8 | 9.0% | 162.7 | 9.3% |
| 1991 | 177.0 | 8.7% | 177.1 | 8.9% |
| 1992 | 190.1 | 7.4% | 190.5 | 7.6% |
| 1993 | 201.4 | 5.9% | 202.9 | 6.5% |
| 1994 | 211.0 | 4.8% | 213.4 | 5.2% |
| 1995 | 220.5 | 4.5% | 224.2 | 5.1% |
| 1996 | 228.2 | 3.5% | 232.4 | 3.7% |
| 1997 | 234.6 | 2.8% | 239.1 | 2.9% |
| 1998 | 242.1 | 3.2% | 246.8 | 3.2% |
| 1999 | 250.6 | 3.5% | 255.1 | 3.4% |
| 2000 | 260.8 | 4.1% | 266.0 | 4.3% |
| 2001 | 272.8 | 4.6% | 278.8 | 4.8% |
| 2002 | 285.6 | 4.7% | 292.9 | 5.1% |
| 2003 | 297.1 | 4.0% | 306.0 | 4.5% |
| 2004 | 310.1 | 4.4% | 321.3 | 5.0% |
| 2005 | 323.2 | 4.2% | 336.7 | 4.8% |
| 2006 | 336.2 | 4.0% | 350.6 | 4.1% |
| 2007 | 351.1 | 4.4% | 369.3 | 5.3% |
| 2008 | 364.1 | 3.7% | 384.9 | 4.2% |
| 2009 | 375.6 | 3.2% | 397.3 | 3.2% |
| 2010 | 388.4 | 3.4% | 411.2 | 3.5% |
| 2011 | 400.3 | 3.0% | 423.8 | 3.1% |
| 2012 | 414.9 | 3.7% | 440.3 | 3.9% |
| 2013 | 425.1 | 2.5% | 454.0 | 3.1% |
| 2014 | 435.3 | 2.4% | 464.8 | 2.4% |
| 2015 | 446.8 | 2.6% | 476.2 | 2.4% |
| 2016 | 463.7 | 3.8% | 494.8 | 3.9% |
| 2017 | 475.3 | 2.5% | 506.8 | 2.4% |
| 2018 | 484.7 | 2.0% | 517.8 | 2.2% |
| 2019 | 498.4 | 2.8% | 536.1 | 3.5% |
| 2020 | 517.3 | 3.8% | 560.1 | 4.5% |
| Trend 1985-2019 | | 4.3% | | 4.5% |
| Trend 1992-2019 | | 3.7% | | 3.9% |
| Trend 1997-2019 | | 3.6% | | 3.9% |

NOTES:

TREND IS BASED ON AN EXPONENTIAL ANALYSIS ON THE YEARS INDICATED.

2020 DATA IS BASED ON DATA THROUGH JULY.

OVERALL RECOMMENDED COMMONWEALTH PREMIUMS

Accounting Projections – Pay As You Go (Cash Flow) Premiums

| | | FISCAL YEARS ENDING | | | |
|-------------------------|--|---------------------|-------------|-------------|-------------|
| | | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> |
| 1. | FUND BALANCE (BEGINNING OF YEAR) | 48,674 | 63,763 | 66,813 | 66,813 |
| 2. | PREMIUM | 84,898 | 79,080 | 77,298 | 78,085 |
| 2a. | COMMONWEALTH AGENCIES | 84,750 | 78,905 | 77,122 | 77,898 |
| 2b. | VCUHA EFFECTIVE 2002 | 148 | 174 | 176 | 187 |
| 3. | NET CASH TRANSFERRED OUT | 969 | 0 | 0 | 0 |
| | TRANSFER OF RESERVE | 0 | 0 | 0 | 0 |
| | TRANSFER FROM W/C | 0 | 0 | 0 | 0 |
| 4. | LOSS PAYMENTS | 54,476 | 59,413 | 60,300 | 60,695 |
| | 4a. PAYMENTS ON CURRENT ACCIDENT YEAR | 7,977 | 9,614 | 9,353 | 9,101 |
| | 4b. PAYMENTS ON ALL PRIOR ACCIDENT YEARS | 46,499 | 49,800 | 50,946 | 51,594 |
| 5. | PROGRAM EXPENSES | 14,951 | 15,306 | 15,689 | 16,081 |
| 6. | ADMINISTRATIVE EXPENSES | 1,447 | 1,468 | 1,467 | 1,467 |
| 7. | INVESTMENT INCOME | 2,034 | 157 | 158 | 159 |
| 8. | FUND BALANCE (END OF YEAR) | 63,763 | 66,813 | 66,813 | 66,813 |
| <u>REQUIRED RESERVE</u> | | | | | |
| 9. | UNDISCOUNTED | 864,064 | 879,828 | 892,691 | 903,207 |
| 10. | DISCOUNTED | 841,760 | 857,217 | 869,835 | 880,161 |
| <u>FUND POSITION</u> | | | | | |
| 11. | UNDISCOUNTED | (800,302) | (813,016) | (825,879) | (836,394) |
| 12. | DISCOUNTED | (777,997) | (790,404) | (803,022) | (813,349) |

Notes: All dollars are in thousands.

(2) The 2020 premiums and loss payments include amounts related to repayment of the working capital advance. 2021 and subsequent do not.

OVERALL RECOMMENDED COMMONWEALTH PREMIUMS

Components of Required Cash Flow Premiums

| | <u>FY 2022</u> | <u>FY 2023</u> |
|--|----------------|----------------|
| Loss Payments | 60,300 | 60,695 |
| Plus Program and Administrative Expenses | 17,156 | 17,548 |
| Less Investment Income | 158 | 159 |
| Equals Total Required Premium | 77,298 | 78,085 |
| Less VCUHA | 176 | 187 |
| Equals Total Commonwealth Agency Premium | 77,122 | 77,898 |

(All Dollars are in \$000s)

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Considerations in Determining Agency Premiums

- ⇒ **Exposures (measured as payroll by NCCI job class)**
- ⇒ **Historical Loss Experience**
 - ♦ **Experience Period is FY 2017 through FY 2019**
- ⇒ **Stability and Risk Sharing**

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

About NCCI

- ⇒ National Council on Compensation Insurance (NCCI) – a national workers' compensation statistical rating bureau
- ⇒ Collects loss and payroll data from insured and private self-insured entities for majority of states
- ⇒ For most states, including Virginia, analyze the collected loss and payroll data and publish “loss costs”, which represent ultimate losses per \$100 of payroll by job class code
- ⇒ Examples of job class codes:
 - 8810 – Clerical office employees
 - 7720 – Police officers and drivers
 - 7383 – College - all employees other than professional or clerical
 - 8833 – Hospital – professional employees

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

General Agency Premium Determination Formula

Agency Estimated Benchmark Premium

x Commonwealth Total Required Premium

Commonwealth Total Estimated Benchmark Premium

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Estimated Benchmark Premiums

Estimated Benchmark Premium =

Estimated Manual Losses

X

Agency Experience Modification Factor

X

Loading for Insurance Company Expenses and Profit

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Example of FY 2022 Manual Loss Calculation

| Sample Agency Estimated Manual Losses | | | |
|---|--------------------------------------|-------------------------------------|------------------------------------|
| NCCI Class (1) | NCCI Virginia Loss Cost (2) | Agency FY 2022 Payroll (3) | FY 2022 Manual Losses (4) |
| 8810 | 0.07 | 200,000 | 140 |
| 8868 | 0.21 | 700,000 | 1,470 |
| 9101 | 2.13 | 100,000 | 2,130 |
| Total | | 1,000,000 | 3,740 |
| Notes: (2) Loss Cost represents ultimate loss per hundred dollars of payroll $(4) = (2) \times (3) / 100$ | | | |

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Experience Modification Factors

$$\text{Experience Modification Factor} = \frac{A_p + [W \times A_e] + [(1-W) \times E_e] + B}{E + B}$$

- Formula is published by NCCI
- Measures relationship between loss of an individual insured relative to the average for the class of insureds
- Assumes historical relationship of insured's losses to class averages is predictor of future relationship of insured's losses to class averages (3 year experience period is FY 2017 to FY 2019)
- Factor of 1.15 indicates that insured's losses are expected to be 15% higher than class average
- Factor of 0.90 indicates that insured's losses are expected to be 10% lower than class average
- A and E represent actual and expected losses (subscript p refers to primary losses and subscript e refers to excess losses); W and B vary with size of insured

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Sample Agency's Estimated Benchmark Premium

| Sample Agency Estimated Commercial Premium | |
|---|-------|
| Estimated FY 2022 Manual Losses | 3,740 |
| times | X |
| Sample Agency Experience Modification Factor | 0.95 |
| times | X |
| Loading for Insurance Company Expenses and Profit | 1.333 |
| equals | = |
| Estimated 2022 Benchmark Premium | 4,736 |

Note: The expense and profit loading is shown to illustrate estimated benchmark premiums -- it does not affect the allocation procedure.

INDIVIDUAL AGENCY PREMIUM CALCULATIONS

Stability Considerations - Credibility

- ⇒ Experience Modification Factor reflects “credibility” of agency’s historical experience by:
 - ★ Considering the size of the agency (W and B factors), and
 - ★ Limiting the dollars on any one loss to \$292,500 in the formula

SETTLEMENT PROJECT

Overview

- Item 81 F.3 of Chapter 2, 2018 Special Session 1, Virginia Acts of Assembly provides for Working Capital Advances of up to \$20 million to settle certain workers' compensation claims and requires DHRM to pay back the working capital advance from annual premiums over a seven-year period.
- The Commonwealth determined that the cost avoidance associated with accelerated closure of these settled claims should accrue to the individual agencies whose claims have been settled and that each individual affected agency should bear the cost of the repayment of the settlement costs over the indicated seven-year period.
- The first year of the working capital advance repayment occurred in FY 2019 for claims settled in FY 2017. The following table summarizes the results to-date of the settlement project:

| Settlement Year | # of Claims | Total Settlements | Cost Avoidance | Payback Period |
|-----------------|-------------|---------------------|---------------------|----------------|
| FY 2017 | 62 | \$4,889,899 | \$14,726,445 | 2019-2025 |
| FY 2018 | 42 | \$3,569,370 | \$8,794,562 | 2020-2026 |
| FY 2019 | 39 | \$3,576,463 | \$13,363,769 | 2021-2027 |
| FY 2020 | 49 | \$4,140,500 | \$13,840,065 | 2022-2028 |
| Total | 192 | \$16,176,232 | \$50,724,840 | |

SETTLEMENT PROJECT

Premium Methodology

- Initially, the total premium allocated to individual agencies includes the FY 2022 or FY 2023 cost avoidance amount. This represents the total required premium if the settlements had not occurred.
- The cost avoidance amounts specific to the individual agencies are deducted from those agencies' preliminary premiums to arrive at the final premiums.
- Additionally, these individual agencies are charged $1/7^{\text{th}}$ of their FY 2017 through FY 2020 settlement amounts in FY 2022 and FY 2023, reflecting the 7 year payback periods.

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